

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1-3 and 14 and CANCEL claims 4-13 and 15-16 without prejudice or disclaimer and ADD new claims 17 and 18 in accordance with the following:

1. (currently amended) An optical device comprising:

~~a branching filter which separates wavelength division multiplexed signal lights of a plurality of wavelength groups, into first wavelength groups and second wavelength groups, each group consisting comprising of a plurality of wavelength groups which do not come into contact with neighbor the wavelength groups making up the first wavelength groups, belonging to the other group on the wavelength axis;~~

~~a functional circuit that functionally processes the wavelength groups on a wavelength group-by-group basis of the separated first wavelength groups and second wavelength groups; and~~

~~a multiplexer connected to the branching filter through the functional circuit, for synthesizing the separated first wavelength groups and second wavelength groups.~~

2. (currently amended) The optical device according to claim 1, wherein the functional circuit makes level adjustment and dispersion compensation for each ~~corresponding~~ plurality of wavelength groups.

3. (currently amended) The optical device according to claim 1, wherein the plurality of wavelength groups each have optical signals of a plurality of different wavelengths, and the plurality of wavelength groups being placed on the wavelength axis with a space for a plurality of wavelengths of the optical signals at every wavelength group-to-wavelength group.

4. (cancelled)

5. (cancelled)

6. (cancelled)

7. (cancelled)

8. (cancelled)

9. (cancelled)

10. (cancelled)

11. (cancelled)

12. (cancelled)

13. (cancelled)

14. (currently amended) A wavelength division multiplexing communication system having a compensation node in the middle of the transmission path optical fiber to transmit wavelength division multiplexed optical signals, wherein

the compensation node comprises an optical device, the optical device having an optical branching filter to separate the wavelength division multiplexed signal lights on a wavelength group-by-group basis, having a function unit to make level adjustment and wavelength dispersion compensation for the optical signals of wavelength groups to be separated by the optical branching filter, and having an optical multiplexer to synthesize the signal lights that have been level adjusted and dispersion compensated by the function unit and separated on a wavelength group-by-group basis, and wherein

the optical branching filter includes a first branching filter to sequentially separate the wavelength division multiplexed signal lights of a plurality of the even numbered or odd numbered wavelength groups, each wavelength group comprising of a plurality of wavelength signals on a wavelength group-by-group basis, and a second branching filter to sequentially separate the wavelength division multiplexed signal lights of a plurality of the odd numbered or even numbered wavelength groups, each wavelength group comprising of a plurality of wavelength signals, ~~corresponding to the remaining signal lights of the signal lights separated after the separation by the first branching filter~~, on a wavelength group-by-group basis,

and wherein

the optical multiplexer includes a first multiplexer to sequentially synthesize the signal lights of the odd numbered or even numbered wavelength groups separated by the first branching filter, and a second multiplexer to sequentially combine the signal lights synthesized by the first multiplexer with the signal lights of the even numbered or odd numbered wavelength groups separated by the first branching filter.

15. (cancelled)

16. (cancelled)

17. (new) An optical device comprising:

a first branching filter receiving a WDM signal comprising a plurality of even numbered and a plurality of odd numbered groups of wavelength signals multiplexed together and sequentially separating the wavelength division multiplexed signal lights of the plurality of even numbered or the plurality of odd numbered wavelength groups from the WDM signal;

a second branching filter to sequentially separate the wavelength division multiplexed signal lights of the plurality of the even numbered or the plurality of odd numbered wavelength groups, which remain after the separation by the first branching filter;

a first multiplexer to sequentially synthesize the signal lights of the wavelength groups separated by the second branching filter; and

a second multiplexer to sequentially synthesize the signal lights of the wavelength groups separated by the first branching filter.

18. (new) An optical device comprising:

means for receiving a WDM signal comprising a plurality of even numbered and a plurality of odd numbered groups of wavelength signals multiplexed together and sequentially separating the wavelength division multiplexed signal lights of the plurality of even numbered or the plurality of odd numbered wavelength groups from the WDM signal;

means for sequentially separating the remaining wavelength division multiplexed signal lights of the plurality of the even numbered or the plurality of odd numbered wavelength groups;

means for sequentially synthesizing the remaining signal lights of the wavelength groups separated; and

means for sequentially synthesizing the signal lights of the wavelength groups initially separated from the WDM signal.